

WHAT IS CLAIMED IS:

1. A method comprising contacting T cell precursor with an appropriate amount of interferon- α (IFN- α), wherein said contacting induces differentiation to a Tr1 cell.
2. The method of Claim 1, wherein said Tr1 cell is characterized by:
- a) CD4 expression;
 - b) high level of IL-10 production;
 - c) significant levels of TGF- β or IFN- γ production; and
 - d) little or no IL-4 or IL-2.
3. The method of Claim 2, wherein:
- a) said high level of IL-10 production is at least 6000 pg in 1 ml for 10^6 cells in 48 h;
 - b) said significant level of TGF- β production is at least 600 pg in 1 ml for 10^6 cells in 48 h;
 - c) said significant level of IFN- γ production is at least 1000 pg in 1 ml for 10^6 cells in 48 h;
 - d) said little or no IL-4 is less than 200 pg in 1 ml for 10^6 cell in 48 h; or
 - e) said little or no IL-2 is less than 200 pg in 1 ml for 10^6 cell in 48 h.
4. The method of Claim 3, wherein:
- a) said high level of IL-10 production is at least 6000 pg in 1 ml for 10^6 cells in 48 h;
 - b) said significant level of TGF- β production is at least 600 pg in 1 ml for 10^6 cells in 48 h;
 - c) said significant level of IFN- γ production is at least 1000 pg in 1 ml for 10^6 cells in 48 h;
 - d) said little or no IL-4 is less than 200 pg in 1 ml for 10^6 cell in 48 h; and
 - e) said little or no IL-2 is less than 200 pg in 1 ml for 10^6 cell in 48 h.

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5. The method of Claim 2, wherein said Tr1 cell:
- a) has a reduced proliferative potential in response to polyclonal activation; and/or
 - b) suppresses response to alloantigens by responder T cells.

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6. The method of Claim 1, wherein said Tr1 cells suppress antigen-specific activation of naive autologous T cells.

7. The method of Claim 5, wherein said suppressed response to alloantigens is mediated by IL-10 and/or TGF- β .

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8. The method of Claim 1, wherein said T cell precursors are:
- a) CD4+; and/or
 - b) cord blood leucocytes.

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9. The method of Claim 1, wherein said T cell precursor is a peripheral blood T cell.

10. The method of Claim 8, wherein said contacting is in combination with an appropriate amount of IL-10.

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11. The method of Claim 1, wherein said contacting is in combination with an antigen.

12. The method of Claim 11, wherein said antigen is an alloantigen.

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13. The method of Claim 1, wherein said Tr1 cells are further proliferated in IL-15.

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14. The method of Claim 1, wherein said Tr1 cells are further tested for antigen specificity.

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15. A method for increasing the number of Tr1 cells, comprising contacting cells with IL-15 and allowing growth, thereby resulting in an increase in the number of said Tr1 cells.

5 16. The method of Claim 15, wherein:

- a) said allowing growth is culturing for at least 2 days;
- b) said increase is at least 3 fold; or
- c) said cells are Tr1 cells.

10 17. The method of Claim 15, wherein said contacting is in a tissue culture plate.

18. The method of Claim 15, wherein said Tr1 cells are specifically anergic to alloantigen.

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